

DERWENT-ACC-NO: 1996-205763  
DERWENT-WEEK: 199621  
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TITLE: Water-borne pigment dispersion - contg. alkali  
soluble resin  
dispersants surfactant and water

PATENT-ASSIGNEE: SEIKO EPSON CORP [SHIH]

PRIORITY-DATA:  
1994JP-0208897 (September 1, 1994)

PATENT-FAMILY:

| PUB-NO        | PUB-DATE       | LANGUAGE |
|---------------|----------------|----------|
| PAGES         | MAIN-IPC       |          |
| JP 08073787 A | March 19, 1996 | N/A      |
| 008           | C09D 011/00    |          |

APPLICATION-DATA:

| PUB-NO            | APPL-DESCRIPTOR | APPL-NO        |
|-------------------|-----------------|----------------|
| APPL-DATE         |                 |                |
| JP 08073787A      | N/A             | 1994JP-0208897 |
| September 1, 1994 |                 |                |

INT-CL (IPC): C09D011/00; C09D011/16 ; C09D017/00  
ABSTRACTED-PUB-NO: JP 08073787A

BASIC-ABSTRACT:

The pigment dispersion comprises a least a pigment, an  
alkali soluble resin  
dispersant, a surfactant and water.

USE - The dispersant is used in ink jet recording and hand  
writing tools.

ADVANTAGE - The dispersion has less change of pigment dia.  
depending on cm.  
changes, even if by repeating freezing and fusing.

CHOSEN-DRAWING: Dwg.0/0

DERWENT-CLASS: G02 T04

CLIPPEDIMAGE= JP408073787A

PAT-NO: JP408073787A

DOCUMENT-IDENTIFIER: JP 08073787 A

TITLE: AQUEOUS PIGMENT DISPERSION AND ITS PRODUCTION

PUBN-DATE: March 19, 1996

INVENTOR-INFORMATION:

NAME

SHINOZUKA, SHOICHI

TSUCHIYA, KYO

ASSIGNEE-INFORMATION:

NAME

SEIKO EPSON CORP

COUNTRY

N/A

APPL-NO: JP06208897

APPL-DATE: September 1, 1994

INT-CL (IPC): C09D011/00;C09D011/16 ;C09D017/00

ABSTRACT:

PURPOSE: To obtain an aqueous pigment dispersion desirable as an ink colorant by mixing a pigment with an alkali-soluble resin dispersant, a surfactant and water.

CONSTITUTION: This production process consists of dispersing a mixture comprising a pigment in which the black pigment is aniline black or carbon black, the yellow pigment is an insoluble azo, isoindolinone, benzimidazolone or condensed azo pigment, and the red pigment is an insoluble azo, quinacridone perillene or dioxazine pigment, and the blue pigment is a phthalocyanine or indanthrene dye, a nonionic long-chain-alkyl-containing surfactant having an HLB of 14 or above and water with a grinding mill, adding a solution prepared by neutralizing an alkali-soluble resin dispersant having an acid value of 100mg(KOH) or above with an alkanolamine and dissolving the product dissolved in water to the above dispersion and adsorptively exchanging the surfactant for the alkali-soluble resin dispersant under agitation.

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|   | L # | Hits   | Search Text   | DBs  | Time Stamp          |
|---|-----|--------|---|--|---------------------|
| 1 | L1  | 11184  | (pigment or carbon adj black) near10 (modified or modify or attach\$4 or bond\$3 or treat\$4 or graft\$3 or absorb\$3 or absorption) near10 (polymer or resin or monomer)                   | USPAT;<br>US-PGP<br>UB;<br>EPO;<br>JPO;<br>DERWEN<br>T;<br>IBM_TD<br>B | 2002/11/25<br>06:56 |
| 2 | L2  | 1294   | (pigment or carbon adj black) near10 (modified or modify or attach\$4 or bond\$3 or treat\$4 or graft\$3 or absorb\$3 or absorption) near10 surfactant                                      | USPAT;<br>US-PGP<br>UB;<br>EPO;<br>JPO;<br>DERWEN<br>T;<br>IBM_TD<br>B | 2002/11/25<br>06:28 |
| 3 | L3  | 421    | (pigment or carbon adj black) near10 (modified or modify or attach\$4 or bond\$3 or treat\$4 or graft\$3 or absorb\$3 or absorption) near10 (polymer or resin or monomer) near10 surfactant | USPAT;<br>US-PGP<br>UB;<br>EPO;<br>JPO;<br>DERWEN<br>T;<br>IBM_TD<br>B | 2002/11/25<br>06:29 |
| 4 | L4  | 238271 | @pd>20020808  | USPAT;<br>US-PGP<br>UB;<br>EPO;<br>JPO;<br>DERWEN<br>T;<br>IBM_TD<br>B | 2002/11/25<br>06:30 |
| 5 | L5  | 1087   | ((523/160) or (523/161)).CCLS.  | USPAT;<br>US-PGP<br>UB;<br>EPO;<br>JPO;<br>DERWEN<br>T;<br>IBM_TD<br>B | 2002/11/25<br>06:30 |

|    | L # | Hits | Search Text   | DBs  | Time Stamp          |
|----|-----|------|---|--|---------------------|
| 6  | L6  | 598  | ((106/31.6) or (106/31.65)<br>or (106/31.85)).CCLS.   | USPAT;<br>US-PGP<br>UB;<br>EPO;<br>JPO;<br>DERWEN<br>T;<br>IBM_TD<br>B | 2002/11/25<br>06:30 |
| 7  | L7  | 66   | 4 and (5 or 6)  | USPAT;<br>US-PGP<br>UB;<br>EPO;<br>JPO;<br>DERWEN<br>T;<br>IBM_TD<br>B | 2002/11/25<br>06:30 |
| 8  | L8  | 476  | 1 and 2   | USPAT;<br>US-PGP<br>UB;<br>EPO;<br>JPO;<br>DERWEN<br>T;<br>IBM_TD<br>B | 2002/11/25<br>06:30 |
| 9  | L11 | 725  | (associative or ph adj<br>dependent) near5 thicken\$3 | USPAT;<br>EPO;<br>JPO;<br>DERWEN<br>T;<br>USOCR                        | 2002/11/25<br>06:30 |
| 10 | L12 | 5    | 4 and 11 and ink                                      | USPAT;<br>US-PGP<br>UB;<br>EPO;<br>JPO;<br>DERWEN<br>T;<br>IBM_TD<br>B | 2002/11/25<br>06:31 |

|    | L #    | Hits | Search Text              | DBs  | Time Stamp          |
|----|--------|------|--------------------------|--|---------------------|
| 11 | L9     | 183  | 3 and ink                | USPAT;<br>US-PGP<br>UB;<br>EPO;<br>JPO;<br>DERWEN<br>T;<br>IBM_TD<br>B | 2002/11/25<br>06:33 |
| 12 | FAMILY | 1    | 1998-348490.NRAN.        | DERWEN<br>T  | 2002/11/25<br>06:47 |
| 13 | L10    | 224  | 8 and ink                | USPAT;<br>US-PGP<br>UB;<br>EPO;<br>JPO;<br>DERWEN<br>T;<br>IBM_TD<br>B | 2002/11/25<br>06:49 |
| 14 | L14    | 46   | 10 not 9                 | USPAT;<br>US-PGP<br>UB;<br>EPO;<br>JPO;<br>DERWEN<br>T;<br>IBM_TD<br>B | 2002/11/25<br>06:49 |
| 15 | L15    | 1009 | 1 and surfactant and ink | USPAT;<br>US-PGP<br>UB;<br>EPO;<br>JPO;<br>DERWEN<br>T;<br>IBM_TD<br>B | 2002/11/25<br>06:56 |
| 16 | L16    | 125  | 11 and ink               | USPAT;<br>US-PGP<br>UB;<br>EPO;<br>JPO;<br>DERWEN<br>T;<br>IBM_TD<br>B | 2002/11/25<br>06:56 |

|    | L # | Hits | Search Text  | DBs  | Time Stamp          |
|----|-----|------|--|--|---------------------|
| 17 | L17 | 790  | (523/161).CCLS.  | USPAT;<br>US-PGP<br>UB;<br>EPO;<br>JPO;<br>DERWEN<br>T;<br>IBM_TD<br>B | 2002/11/25<br>06:56 |
| 18 | L18 | 32   | 15 and 17  | USPAT;<br>US-PGP<br>UB;<br>EPO;<br>JPO;<br>DERWEN<br>T;<br>IBM_TD<br>B | 2002/11/25<br>06:59 |
| 19 | L19 | 163  | 15 and writing   | USPAT;<br>US-PGP<br>UB;<br>EPO;<br>JPO;<br>DERWEN<br>T;<br>IBM_TD<br>B | 2002/11/25<br>07:07 |
| 20 | L20 | 1304 | (pigment or carbon adj<br>black) near10 (dispersant<br>or dispersing adj agent)<br>near10 surfactant | USPAT;<br>US-PGP<br>UB;<br>EPO;<br>JPO;<br>DERWEN<br>T;<br>IBM_TD<br>B | 2002/11/25<br>07:13 |
| 21 | L21 | 150  | 20 and ink and writing   | USPAT;<br>US-PGP<br>UB;<br>EPO;<br>JPO;<br>DERWEN<br>T;<br>IBM_TD<br>B | 2002/11/25<br>07:14 |

|    | L # | Hits | Search Text   | DBs  | Time Stamp          |
|----|-----|------|---|--|---------------------|
| 22 | L22 | 32   | 20 and 17   | USPAT;<br>US-PGP<br>UB;<br>EPO;<br>JPO;<br>DERWEN<br>T;<br>IBM_TD<br>B | 2002/11/25<br>07:13 |
| 23 | L23 | 1138 | (pigment or carbon adj<br>black) near5 (dispersant or<br>dispersing adj agent) and<br>(pigment or carbon adj<br>black) near5 surfactant | USPAT;<br>US-PGP<br>UB;<br>EPO;<br>JPO;<br>DERWEN<br>T;<br>IBM_TD<br>B | 2002/11/25<br>07:14 |
| 24 | L26 | 2    | ("5478602").PN.   | USPAT;<br>US-PGP<br>UB;<br>EPO;<br>JPO;<br>DERWEN<br>T;<br>IBM_TD<br>B | 2002/11/25<br>07:17 |
| 25 | L27 | 1    | 26 and pigment  | USPAT;<br>US-PGP<br>UB;<br>EPO;<br>JPO;<br>DERWEN<br>T;<br>IBM_TD<br>B | 2002/11/25<br>07:17 |
| 26 | L24 | 104  | 23 and ink and writing  | USPAT;<br>US-PGP<br>UB;<br>EPO;<br>JPO;<br>DERWEN<br>T;<br>IBM_TD<br>B | 2002/11/25<br>07:17 |

|    | L # | Hits   | Search Text  | DBs  | Time Stamp          |
|----|-----|--------|--|--|---------------------|
| 27 | L25 | 34     | 23 and 17  | USPAT;<br>US-PGP<br>UB;<br>EPO;<br>JPO;<br>DERWEN<br>T;<br>IBM_TD<br>B | 2002/11/25<br>07:27 |
| 28 | L28 | 46     | 17 and dispersant and<br>pigment and surfactant and<br>writing | USPAT;<br>US-PGP<br>UB;<br>EPO;<br>JPO;<br>DERWEN<br>T;<br>IBM_TD<br>B | 2002/11/25<br>07:32 |
| 29 | L29 | 4      | (( "4994520" ) or<br>("5952429")).PN.                          | USPAT;<br>US-PGP<br>UB;<br>EPO;<br>JPO;<br>DERWEN<br>T;<br>IBM_TD<br>B | 2002/11/25<br>07:32 |
| 30 | L30 | 2      | 29 and surfactant  | USPAT;<br>US-PGP<br>UB;<br>EPO;<br>JPO;<br>DERWEN<br>T;<br>IBM_TD<br>B | 2002/11/25<br>07:33 |
| 31 | L31 | 152250 | (mitsubishi adj pencil or<br>kabushiki adj kaisha).asn.        | USPAT;<br>US-PGP<br>UB;<br>EPO;<br>JPO;<br>DERWEN<br>T;<br>IBM_TD<br>B | 2002/11/25<br>07:34 |



|    | L # | Hits | Search Text  | DBs  | Time Stamp          |
|----|-----|------|--|--|---------------------|
| 32 | L32 | 144  | 31 and ink and (disperant<br>or dispersing) same<br>surfactant                     | USPAT;<br>US-PGP<br>UB;<br>EPO;<br>JPO;<br>DERWEN<br>T;<br>IBM_TD<br>B | 2002/11/25<br>07:37 |
| 33 | L33 | 4    | jp-08073787-\$.did. or<br>jp-01301760-\$.did.                                      | USPAT;<br>US-PGP<br>UB;<br>EPO;<br>JPO;<br>DERWEN<br>T;<br>IBM_TD<br>B | 2002/11/25<br>07:37 |
| 34 | L34 | 2    | ("5609432").PN.  | USPAT;<br>US-PGP<br>UB;<br>EPO;<br>JPO;<br>DERWEN<br>T;<br>IBM_TD<br>B | 2002/11/25<br>08:33 |
| 35 | L35 | 153  | surface near3 treat\$4 near5<br>pigment near10 surfactant                          | USPAT;<br>US-PGP<br>UB;<br>EPO;<br>JPO;<br>DERWEN<br>T;<br>IBM_TD<br>B | 2002/11/25<br>08:39 |
| 36 | L36 | 597  | surface near3 treat\$4 near5<br>pigment near10 (polymer or<br>resin or dispersant) | USPAT;<br>US-PGP<br>UB;<br>EPO;<br>JPO;<br>DERWEN<br>T;<br>IBM_TD<br>B | 2002/11/25<br>08:39 |

|    | L # | Hits | Search Text   | DBs  | Time Stamp          |
|----|-----|------|---|--|---------------------|
| 37 | L37 | 56   | 35 and 36   | USPAT;<br>US-PGP<br>UB;<br>EPO;<br>JPO;<br>DERWEN<br>T;<br>IBM_TD<br>B | 2002/11/25<br>08:36 |
| 38 | L38 | 1214 | (treat\$4 or absorb\$3 or<br>coat\$3) near5 pigment<br>near10 surfactant  | USPAT;<br>US-PGP<br>UB;<br>EPO;<br>JPO;<br>DERWEN<br>T;<br>IBM_TD<br>B | 2002/11/25<br>08:40 |
| 39 | L39 | 3475 | (treat\$4 or attach\$4 or<br>bond\$3 or modified) near5<br>pigment near10 (polymer or<br>resin or dispersant)   | USPAT;<br>US-PGP<br>UB;<br>EPO;<br>JPO;<br>DERWEN<br>T;<br>IBM_TD<br>B | 2002/11/25<br>08:41 |
| 40 | L40 | 167  | 38 and 39   | USPAT;<br>US-PGP<br>UB;<br>EPO;<br>JPO;<br>DERWEN<br>T;<br>IBM_TD<br>B | 2002/11/25<br>08:48 |
| 41 | L41 | 793  | lx860 or e3370 or lpdm7010<br>or (boncoat or voncoat) adj<br>"3750" or fk600 or rm5 or<br>sa22 or jsr0693 or lx adj<br>"860" or e adj "3370" or<br>lpdm adj "7010" or fk adj<br>"600" or rm adj "5" or sa<br>adj "22" or jsr adj "0693" | USPAT;<br>US-PGP<br>UB;<br>EPO;<br>JPO;<br>DERWEN<br>T;<br>IBM_TD<br>B | 2002/11/25<br>08:54 |

|    | L # | Hits | Search Text  | DBs  | Time Stamp          |
|----|-----|------|--|--|---------------------|
| 42 | L42 | 19   | 41 near10 (acrylic or butadiene)   | USPAT;<br>US-PGP<br>UB;<br>EPO;<br>JPO;<br>DERWEN<br>T;<br>IBM_TD<br>B | 2002/11/25<br>08:53 |
| 43 | L43 | 10   | lx860 or e3370 or lpdm7010<br>or (boncoat or voncoat) adj<br>"3750" or fk600 or lx adj<br>"860" or e adj "3370" or<br>lpdm adj "7010" or fk adj<br>"600" | USPAT;<br>US-PGP<br>UB;<br>EPO;<br>JPO;<br>DERWEN<br>T;<br>IBM_TD<br>B | 2002/11/25<br>08:55 |